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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,130	11/21/2003	Eric C. Huffman	71189-1568	1129
20915	7590	05/03/2007		
MCGARRY BAIR PC 32 Market Ave. SW SUITE 500 GRAND RAPIDS, MI 49503			EXAMINER SNIDER, THERESA T	
			ART UNIT	PAPER NUMBER
			1744	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/707,130

Applicant(s)

HUFFMAN ET AL.

Examiner

Theresa T. Snider

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/21/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/21/2003
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Figure 3 has 2-‘60’s and 2-‘62’s directed to different elements. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 8-10 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al.(5,959,423) in view of Bancroft(5,548,511).

Nakanishi et al. discloses a similar robot however fails to disclose a squeegee.

Nakanishi et al. discloses a base housing (fig. 2, #1).

Nakanishi et al. discloses a drive system mounted to the housing (fig. 2, #11).

Nakanishi et al. discloses a computer processing unit (fig. 1, #14,13).

Nakanishi et al. discloses a dusting assembly (fig. 2, #12B).

Nakanishi et al. discloses a cleaning fluid delivery system (col. 3, lines 51-54).

Nakanishi et al. discloses a suction nozzle (fig. 2, #12A).

Bancroft discloses a movable extraction cleaning robot with a squeegee (fig. 1, #19). It would have been obvious to one of ordinary skill in the art to provide the squeegee of Bancroft in Nakanishi et al. adjacent the suction nozzle to allow for directing of dirt to the suction nozzle and to prevent it passing from under the nozzle and not being suctioned into the nozzle.

Nakanishi et al. discloses a recovery tank (fig. 10A, #12A-1).

Nakanishi et al. discloses a suction source (col. 3, line 27-29).

Nakanishi et al. discloses a power source (fig. 1, #27).

With respect to claim 8, Nakanishi et al. discloses the input data is remote control signal (col. 4, lines 1-5).

With respect to claim 9, Nakanishi et al. discloses the input data being a program (col. 4, lines 8-10).

With respect to claim 10, Nakanishi et al. discloses the drive system including at least one wheel driven by a drive motor (col. 3, lines 11-15).

With respect to claim 22, Nakanishi et al. discloses the suction nozzle and dusting assembly located at opposite portions of the housing (fig. 2, #2A,12B).

With respect to claim 23, it would have been obvious to one of ordinary skill in the art to determine the most appropriate squeegee location in Nakanishi et al. in view of Bancroft with respect to the nozzle to allow for the most effective directing of dirt to the suction nozzle and to prevent it passing from under the nozzle and not being suctioned into the nozzle.

4. Claims 1, 8-11, 19-20, 22-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkpatrick et al.(6,481,515) in view of Nakanishi et al.(5,959,423) and Bancroft(5,548,511).

Kirkpatrick et al. discloses a similar cleaning robot however fails to disclose a recovery system, a squeegee or remote control signal.

Kirkpatrick et al. discloses a base housing (fig. 1A, #20).

Kirkpatrick et al. discloses a drive system mounted to the housing (fig. 2, #38).

Kirkpatrick et al. discloses a computer processing unit (fig. 13, #130).

Kirkpatrick et al. discloses a dusting assembly (fig. 17, #172).

Kirkpatrick et al. discloses a power source (fig. 8, lines 26).

Nakanishi et al. discloses a cleaning robot with a suction nozzle, recovery tank and suction source (fig. 2, #12A, fig. 10A, #12A-1 and col. 3, line 27-29). It would have been obvious to one of ordinary skill in the art to provide the recovery system of

Nakanishi et al. in Kirkpatrick et al. to allow dirt to be removed from a surface rather than moved around by the dusting assembly.

Bancroft discloses a movable extraction cleaning robot with a squeegee (fig. 1, #19). It would have been obvious to one of ordinary skill in the art to provide the squeegee of Bancroft in Nakanishi et al. adjacent the suction nozzle to allow for directing of dirt to the suction nozzle and to prevent it from passing under the nozzle without being suctioned into the nozzle.

With respect to claim 2, Kirkpatrick et al. discloses a cleaning fluid delivery system (col. 16, lines 3-11).

With respect to claim 8, Nakanishi et al. discloses the input data is remote control signal (col. 4, lines 1-5). It would have been obvious to one of ordinary skill in the art to provide the remote control signal of Nakanishi et al. in Kirkpatrick et al. in view of Bancroft to allow an operator to decide how the robot will clean a surface.

With respect to claim 9, Kirkpatrick et al. discloses input data being a program (col. 13, lines 17-35).

With respect to claim 10, Kirkpatrick et al. discloses the drive system including at least one wheel driven by a drive motor (col. 7, lines 59-61).

With respect to claim 11, Kirkpatrick et al. discloses the dusting assembly removably mounted to a pad (col. 16, lines 52-63).

With respect to claim 19, Kirkpatrick et al. discloses proximity sensors (col. 13, lines 53-66).

With respect to claim 20, Kirkpatrick et al. discloses the use of the signal from the proximity sensor to control the drive system (col. 13, line 64-65).

With respect to claim 22, Nakanishi et al. discloses placement of the suction nozzle and dusting assembly at opposite portions of the housing (fig. 2, #2a,12B).

With respect to claim 23, it would have been obvious to one of ordinary skill in the art to determine the most appropriate squeegee location in Kirkpatrick et al. in view of Nakanishi et al. and Bancroft with respect to the nozzle to allow for the most effective directing of dirt to the suction nozzle and to prevent it passing from under the nozzle and not being suctioned into the nozzle.

With respect to claim 26, Kirkpatrick et al. discloses the dusting assembly including a dusting pad attached to a bottom surface of the housing and removable dusting cloth associated therewith (col. 16, lines 36-63).

5. Claims 3, 12 and 24-25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkpatrick et al.(6,481,515) in view of Nakanishi et al.(5,959,423) and Bancroft(5,548,511) as applied to claim 2 above, and further in view of Martin et al.(2004/0031121).

Kirkpatrick et al. in view of Nakanishi et al. discloses a similar cleaning robot however fails to disclose an agitator.

With respect to claims 3, 12 and 24, Martin et al. discloses a cleaning robot with a dusting assembly and agitator (fig. 4, #32). It would have been obvious to one of ordinary skill in the art to provide the agitator of Martin et al. in Kirkpatrick et al. in view of Nakanishi et al. and Bancroft to ensure that all debris is effectively removed from a surface.

With respect to claim 25, it would have been obvious to one of ordinary skill in the art to determine the most appropriate fluid distributor location with respect to the suction nozzle in Kirkpatrick et al. in view of Nakanishi et al., Bancroft and Martin et al. to ensure for the most effective removal of fluid from a surface.

6. Claims 4-7 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkpatrick et al.(6,481,515) in view of Nakanishi et al.(5,959,423), Bancroft(5,548,511) and Martin et al.(2004/0031121) as applied to claim 3 above, and further in view of Kasper et al.(6,446,302)

Kirkpatrick et al. in view of Nakanishi et al. and Martin et al. discloses a similar cleaning robot however fails to disclose floor condition sensors.

Kirkpatrick et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16). Nakanishi et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16). Kasper et al. discloses the use of floor condition sensors in a home cleaning device (abstract). It would have been obvious to one of ordinary skill in the art to provide the floor condition sensor of Kasper et al. in Kirkpatrick et al. in view of Nakanishi et al., Bancroft and Martin et al. to allow for the most effective cleaning of the desired surface.

With respect to claims 5 and 14, Kasper et al. discloses the use of the signal from the condition sensor to control one of the suction source or drive system (claims 1-4). It would have been obvious to one of ordinary skill in the art to allow for the same control in Kirkpatrick et al.

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in view of Nakanishi et al., Bancroft and Martin et al. as in Kasper et al. to ensure that all surfaces are effectively cleaned by the cleaning robot.

With respect to claims 6 and 15, Kirkpatrick et al. discloses proximity sensors (col. 13, lines 53-66).

With respect to claims 7 and 16, Kirkpatrick et al. discloses the use of the signal from the proximity sensor to control the drive system (col. 13, line 64-65).

7. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkpatrick et al.(4,481,515) in view of Nakanishi et al.(5,959,423) and Bancroft(5,548,511) as applied to claim 1 above, and further in view of Kasper et al.(6,446,302)

Kirkpatrick et al. in view of Nakanishi et al. discloses a similar cleaning robot however fails to disclose floor condition sensors.

Kirkpatrick et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16). Nakanishi et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16).

Kasper et al. discloses the use of floor condition sensors in a home cleaning device (abstract). It would have been obvious to one of ordinary skill in the art to provide the floor condition sensor of Kasper et al. in Kirkpatrick et al. in view of Nakanishi et al. and Bancroft to allow for the most effective cleaning of the desired surface.

With respect to claim 18, Kasper et al. discloses the use of the signal from the condition sensor to control one of the suction source or drive system (claims 1-4). It would have been obvious to one of ordinary skill in the art to allow for the same control in Kirkpatrick et al. in

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view of Nakanishi et al. and Bancroft as in Kasper et al. to ensure that the cleaning robot effectively cleans all surfaces.

8. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al.(5,959,423) in view of Bancroft(5,548,511) as applied to claim 1 above, and further in view of Kasper et al.(6,446,302).

Nakanishi et al. discloses a similar cleaning robot however fails to disclose floor condition sensors.

Nakanishi et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16). Kasper et al. discloses the use of floor condition sensors in a home cleaning device (abstract). It would have been obvious to one of ordinary skill in the art to provide the floor condition sensor of Kasper et al. in Nakanishi et al in view of Bancroft. to allow for the most effective cleaning of the desired surface.

With respect to claim 18, Kasper et al. discloses the use of the signal from the condition sensor to control one of the suction source or drive system (claims 1-4). It would have been obvious to one of ordinary skill in the art to allow for the same control in Nakanishi et al. in view of Bancroft as in Kasper et al. to ensure that the cleaning robot effectively cleans all surfaces.

9. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanishi et al.(5,959,423) and Bancroft(5,548,511) as applied to claim 1 above, and further in view of Kobayashi et al.(5,109,566).

Nakanishi et al. discloses a similar cleaning robot however fails to disclose proximity condition sensors.

Nakanishi et al. discloses various sensors mounted on the housing however fails to disclose the type of sensors (col. 4, lines 15-16). Kobayashi et al. discloses the use of proximity sensors in a cleaning robot (col. 1, lines 22-29). It would have been obvious to one of ordinary skill in the art to provide the proximity condition sensor of Kobayashi et al. in Nakanishi et al. in view of Bancroft to ensure that the robot is not bumping into objects, including the walls of a room.

With respect to claim 20, it would have been obvious to one of ordinary skill in the art to allow for use of the proximity signal of Kobayashi et al. in Nakanishi et al. in view of Bancroft to ensure that the robot travels within a room without continually bumping into obstacles or walls.

### ***Double Patenting***

10. Applicant is advised that should claim 3 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. Applicant is advised that should claim 4 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Response to Arguments***

11. Applicant's arguments with respect to claims 1 and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's remarks state a replacement drawing sheet has been submitted however no sheet can be found with the response.

Applicant argues Kasper relates to different types of floor cleaners than Kirkpatrick, Nakanishi and Martin. This argument is not persuasive because they all relate to floor cleaners that automatically move across a floor. Kasper et al. was applied in the rejection to show the use of floor condition sensors in a floor cleaner. One would look to Kasper et al. to show floor condition sensors in an automatic floor cleaner, a device similar to Kirkpatrick, Nakanishi and Martin.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hiratsuka discloses a robot with a squeegee.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

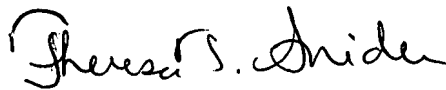
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Snider whose telephone number is (571) 272-1277. The examiner can normally be reached on Monday-Friday (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**THERESA T. SNIDER  
PRIMARY-EXAMINER**

Theresa T. Snider  
Primary Examiner  
Art Unit 1744

4/30/07